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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/810,386

03/26/2004

Herbert Hartgrove

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WOOD, PHILLIPS, KATZ, CLARK & MORTIMER  
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EXAMINER

STEELE, JENNIFER A

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

05/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/810,386

Applicant(s)

HARTGROVE ET AL.

Examiner

Jennifer Steele

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 5 and 6 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 5 and 6 describe a nonwoven fabric comprised of two layers that are "in a directly adjacent hydroentangled united arrangement". Layer one is a nonwoven of a blend of lyocell and modacrylic fibers. Layer two is a blend of lyocell and modacrylic and para-amid fibers. The process of hydroentanglement will mix the fibers so it is not clear how the one layer consists essentially of two types fibers.
2. The term "sufficiently absent" in claims 5 and 6 is a relative term which renders the claim indefinite. The term "sufficiently absent" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. "Sufficiently absent" could mean that there are some para-amid fibers in the first layer which contradicts the limitation in claims 5 and 6 that the first layer consists essentially of a blend of lyocell fiber and modacrylic fiber and contradicts the limitation in claims 7 and 9 that the first layer comprises a blend of 60% lyocell fiber and 40% modacrylic fiber.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claim 5-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Paire (US 5,236,769) in view of Kelly (US 2002/0004348) and Kierulff (US 6660503). The 35 U.S.C. 103(a) of the Office Action of 11/16/2006 is maintained. As amended, claims 5 and 6 include the limitation that "the first layer masks discoloration of the second layer associated with para-amid fiber present therein". Paire teaches the same materials and the same structure as the current application and therefore Examiner presumes that the invention of Paire will have the same property to mask discoloration. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has

basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02

### ***Response to Arguments***

4. Applicant's arguments, see paragraph 1, filed 2/7/2007, with respect to claim language of "in a directly adjacent" have been fully considered and are persuasive. The 35 USC 112, first paragraph rejection of claims 5 and 6 has been withdrawn.

5. Applicant's argument filed 2/07/2007 to withdraw the 35 USC 112, second paragraph, for indefiniteness of the claim language in a directly adjacent hydroentangled united arrangement has been fully considered but is not persuasive. The applicant fails to describe how the two layers are maintained where there are two distinct layers with different fibers when the process of uniting the layers in hydroentanglement which by nature of the process will use water pressure to entangle the fibers. There is no evidence provided to support the limitation that the fibers of the first layer do not become entangled in the second layer. Applicant points to page 4 of the specification as teaching that even after hydroentanglement two separate layers are maintained. However, page 4 of the specification states that hydroentangling forms a composite fabric, but does not state that the composite fabric has separate layers.

6. Applicant argues that Paire teaches a composite lining for a garment that consists of 3 layers. Two of the layers are non-woven and made from blends of fire-resistant, heat stable fibers as in the applicant's invention. The third layer is a film that is added to made the fabric waterproof for a firefighters garment. Applicant also refers

to the addition of a film layer in one embodiment in applicant's specification. As noted above in this office action, the criticality of fiber content of each layer as stated in the claims is indefinite as claimed in that layers of claims 7 and 9 comprise lyocell and modacrylic compositions, however the process of hydroentanglement produces layers where the para-amid fibers are substantially absent. Paire in view of Kelly and Kierulff teach nonwoven layers that can comprise heat resistant fibers of modacrylic and lyocell.

7. Applicant argues that Kierulff does not appear related to the claimed invention because "Kierulff teaches a drastic modification of polysaccharides by means of a phenol oxidizing enzyme (ABST)". Examiner references Kierulff teachings of cellulose derived fibers, such as lyocell, and the advantageous properties of these fibers for producing fabrics that have increased strength, durable softness and flame retardant properties (col. 3, lines 35-46 and col. 6, lines 63-68). Therefore it would have been obvious to replace a para-amid fiber with a lyocell fiber to gain flame retardant properties in the fabric. Based on the teachings of Kierulff that lyocell is a flame retardant fiber with increased softness and wearability, it would have been obvious for the applicant to use other fibers such as lyocell in the outer layer in order to produce a fabric with flame retardant properties.

8. Applicant takes issue that saying that both needling and hydroentangling are known in the art as mechanical methods of bonding and requests documentation of this. Paire teaches needling and Kelly teaches hydroentangling and therefore the references cite that a flame retardant fabric can be produced of either method and this is sufficient

evidence that needlepunching and hydroentanglement are commonly recognized in the art as mechanical methods used to produce nonwoven fabrics.

9. Applicant argues that Kelly shall not preclude patentability under Section 103 of Title 35 because the subject matter of Kelly published patent application and the claimed invention were at the time the claimed invention was made, owned by the same person or entity and subject to an obligation of assignment to the same person or entity. However, the Kelly publication qualifies as prior art under sections 102(a) and 102(b) and therefore 103 (c) cannot be invoked in order to remove the Kelly publication as a reference.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1771

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Steele whose telephone number is (571) 272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

4/28/2007

  
ELIZABETH M. COLE  
PRIMARY EXAMINER